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A STUDY OF THE EDUCATIONAL NEEDS FOR WORKERS ENGAGED IN
OCCUPATIONS IN OFF-FARM AGRICULTURAL BUSINESSES IN ALABAMA.
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IN ORDER TO DETERMINE PREEMPLOYMENT EDUCATIONAL NEEDS OF SECONDARY SCHOOL STUDENTS ENTERING NONPROFESSIONAL OFF-FARM AGRICULTURAL OCCUPATIONS, THIS STUDY WAS DESIGNED TO IDENTIFY EMPLOYING FIRMS, EXISTING OCCUPATIONS, DESIRABLE CHARACTERISTICS OF BEGINNING EMPLOYEES, EMPLOYERS' FAMILIARITY WITH VOCATIONAL AGRICULTURAL PROGRAMS, EMPLOYERS' AGREEMENT ON CHANGES NEEDED IN THE PROGRAMS, EMPLOYERS' WILLINGNESS TO COOPERATE IN PREEMPLOYMENT TRAINING, PROBLEMS OF CONDUCTING COOPERATIVE EDUCATION PROGRAMS, AND EMPLOYERS' AGREEMENT ON THE RELATIVE IMPORTANCE OF VARIOUS INSTRUCTIONAL UNITS. THE SAMPLE OF 474 FIRMS WAS SELECTED RANDOMLY FROM STRATIFIED POPULATION CATEGORIES. AN INTERVIEW INSTRUMENT WAS DESIGNED AND PRETESTED. IT WAS ADMINISTERED BY VOCATIONAL AGRICULTURE TEACHERS. DESCRIPTIVE STATISTICAL TECHNIQUES WERE USED IN ANALYZING DATA, AND FACTOR ANALYSIS WAS USED TO GROUP COMPETENCIES. OF 184 OCCUPATIONS, 125 WERE NONPROFESSIONAL AND MOST REQUIRED ON-THE-JOB TRAINING. A RURAL BACKGROUND WAS PREFERRED FOR BEGINNING EMPLOYEES. PERSONALITY, ABILITY TO GET ALONG WITH OTHERS, AND COMMUNICATIVE ABILITY WERE IMPORTANT FACTORS IN EMPLOYEE SELECTION, AS WELL AS HIGH SCHOOL GRADUATION. AGRICULTURAL COMPETENCIES WERE NEEDED, AND POST-HIGH SCHOOL TRAINING WOULD BE REQUIRED IN SOME CASES. MOST EMPLOYERS FELT OCCUPATIONAL EXPERIENCE PROGRAMS WERE NECESSARY, AND THEY WOULD COOPERATE IN SPITE OF ANTICIPATED LIABILITY PROBLEMS. (JM)

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**A STUDY OF THE EDUCATIONAL NEEDS FOR WORKERS ENGAGED
IN OCCUPATIONS IN OFF-FARM AGRICULTURAL
BUSINESSES IN ALABAMA**

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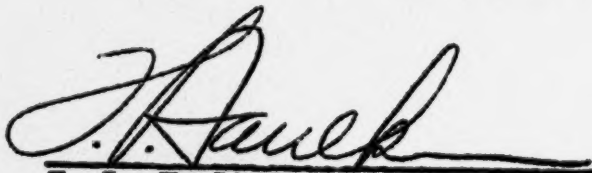
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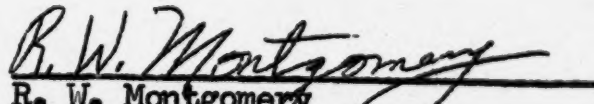
This study was a cooperative effort by the Department of Vocational, Technical and Practical Arts Education, Auburn University, Auburn, Alabama, and the Agricultural Education Service, Vocational Education Division of the Alabama State Department of Education, Montgomery, Alabama. The research coordinating committee consisted of D. P. Dilworth, Chairman; Dr. R. A. Baker, Co-chairman; H. W. Green, and T. H. Bell.

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INTRODUCTION

In the United States for each hundred students now enrolled in elementary schools three will probably not attain a secondary school diploma. Out of each hundred high school graduates, seventy will never apply for admission to colleges; eighty-six will live and work in our society without a baccalaureate degree.

Research conducted in 1964 by the Alabama State Department of Education revealed that of Alabama's secondary school graduates only thirty-one percent apply for college admission. Only fourteen percent of Alabama's high school graduates leave college with a baccalaureate degree.

Education may be viewed as having two basic components. One is of general nature, including knowledge and skills needed by all people. This is often referred to as general education. The other is occupational education which is concerned primarily with application of knowledge and skills to the world of work. Education for employment has been recognized as a legitimate function of the secondary school for several decades. Much has been said about this form of education in recent years. In fact, there appears to be a growing concern among secondary school educators that those youth who are not likely to go to college need some kind of specialized education which will prepare them for employment.

Purposes of the Study

The central problem of the study was to ascertain the pre-employment educational needs for secondary school students desiring to enter non-professional occupations in agriculture. The study involved the collection and analysis of data from individuals in businesses, industries and agencies of an off-farm agricultural nature.

The following research problems were investigated in the attempt to resolve the central problem of the study:

1. What are the agricultural businesses, industries and agencies in Alabama by main product or service categories in:
 - a. farm machinery;
 - b. farm supplies and equipment
 - c. poultry and livestock industries;
 - d. crop, forestry and conservation;
 - e. ornamental horticulture, recreation, and wildlife; and
 - f. farm services?

2. What are the occupations existing in the agricultural business categories of:
 - a. farm machinery;
 - b. farm supplies and equipment;
 - c. poultry and livestock industry;
 - d. crops, forestry, conservation;
 - e. ornamental horticulture, recreation, wildlife; and
 - f. farm service?
3. What are the desirable personal and background characteristics for entry level employment in off-farm agricultural businesses?
4. To what extent are business and industry managers, personnel directors, and supervisors familiar with the present secondary school program of vocational agriculture?
5. To what extent do business and industry owners, managers, personnel directors, and supervisors agree as to:
 - a. the possibility of adjusting the present secondary school program of vocational agriculture to train for the off-farm agricultural occupations; and
 - b. the possible curriculum approaches to pre-employment training for off-farm agricultural occupations in the secondary school program of vocational agriculture?
6. To what extent are off-farm agricultural firms and agencies willing to participate in a pre-employment educational program for off-farm agricultural occupations at the secondary school level?
7. What problems would be encountered by off-farm agricultural firms and agencies in participating in cooperative occupational experience programs for secondary school students?
8. To what extent do business and industry owners, managers, personnel directors, and supervisors agree as to the relative importance of selected basis instructional units in the pre-employment educational programs for occupations in agricultural firms and agencies?

Definition of Terms

The terms "off-farm agricultural business," "agricultural industry," and "agricultural agency," used in the study refer to those businesses, industries and agencies that provide supplies and services to individuals producing plants and animals. These plants and animals include those used for feed, food, fiber, shelter, and pleasure. The

primary factor considered in the classification of the off-farm agricultural firm was those businesses, industries and agencies that existed primarily for the purpose of providing supplies and services either directly or indirectly to individuals producing plants and animals.

The term "non-professional occupations" used in the study refers to occupations in which a majority of the respondents expressed that the educational requirement for entry employment is less than the baccalaureate degree level.¹

The term "managerial level occupations" used in this study refers to occupations in which the respondents indicated as "manager."²

The term "occupational category" used in this study consists of a group of occupations or job titles within a business, industry or agency classified by the type of products sold and/or services provided.

The term "cluster" used in this study refers to a grouping by an association of common elements.

The term "sample counties" refers to the twenty counties selected at random from the counties in the state from which the sample of businesses and industries contacted were drawn.

The term "contact sample" refers to a random percentage sample of the total agricultural businesses, industries and agencies in the twenty sample counties.

The Data

Data for the study were obtained from 474 selected off-farm agricultural firms and agencies in the State, and the division heads of the State Department of Agriculture and Industries.

The sample of firms and agencies contacted in the study were selected at random from individual county listings of agricultural businesses, industries and agencies of the twenty sample counties. The sample counties were selected at random from a population stratification by vocational agriculture supervisory districts. The counties in each district were stratified into population units of less than 25,000; 25,000 to 50,000 and 50,000 and above. Two counties were selected at random from the less than 25,000 category and one county from the 25,000 to 50,000 category in each of the five supervisory districts. Jefferson, Etowah, Montgomery and Mobile counties were selected from the 50,000 and above category due to their metropolis area. One

¹See Table 4, page 16 for listing.

²See Table 2, page 9 for occupations so indicated.

county in the central supervisory district was selected at random from the 50,000 and above category to make a total of twenty counties.

Procedure Used in Conducting the Study

The following procedure was followed in conducting the study:

1. Defined and clarified the terms off-farm agricultural business, industry or agency.
2. Tentatively categorized off-farm agricultural businesses, industries and agencies into seven broad categories.
3. Prepared a partial listing by categories of the off-farm agricultural businesses, industries and agencies.
4. Prepared a list indicating sources of listings of off-farm agricultural firms and agencies in Alabama.
5. Prepared forms to be used by teachers of vocational agriculture for the reporting of county agricultural firms and agencies.
6. Categorized counties in the state by population.
7. Selected at random from the population stratification, sixteen sample counties to be included in the study, excluding Jefferson, Etowah, Montgomery and Mobile.³
8. Held meetings in each supervisory district with the teachers of vocational agriculture in the selected counties to explain the mechanics of the study and the methods and procedures to follow in securing the listings of agricultural firms and agencies.
9. Designed and pre-tested the instrument to be used by teachers of vocational agriculture in interviewing owners, managers, personnel directors and/or supervisors of the firms and agencies.⁴
10. Selected an "nth" random contact percentage sample of the firms and agencies to be interviewed in each county from the county listings.
11. Held meetings in each supervisory district with teachers of

³See Appendix A, page 56

⁴See Appendix C, page 61

vocational agriculture to explain the mechanics and techniques to be used in conducting of interviews and assigning contacts to be made by each teacher.

12. Interviewed the selected contact sample in each of the sample counties.

Data Analysis

Descriptive statistical techniques were used in analyzing the data. Data with regards to the characteristics of workers and responses about programs were subjected to simple frequency tabulations.

Data relative to educational needs in terms of competencies were subjected to a factor analysis technique to identify the grouping (clustering) of competencies (instructional area) for occupational categories. Data used consisted of representative profile scores assigned to the verbal expressions of respondents as to the value of competencies for occupations. Since data were ordinal in nature, no statistical test interpretations were made with regard to correlations.

The data for the factor analysis were assembled by determining profile scores for each competency for each occupation and then for each competency for each occupational category.

PRESENTATION OF DATA

Agricultural Businesses, Industries and Agencies in Alabama.

Table 1 reflects the types of agricultural businesses, industries and services operating in Alabama by main product or service categories. The eighteen types of firms or services listed are sub-divisions of the seven original broad categories included in the study classified according to the main products and/or services provided by the firms.

Occupations in Off-farm Agricultural Industries and Agencies.

Table 2 reflects a total of 184 different occupation titles employed in the twenty counties within the firms in the contact sample. Of the total 184, one hundred twenty-five are classified as non-professional occupations by the definition used in this study.

Personal Characteristics Valued in Workers. A ranking of worker characteristics is revealed in Table 3. Respondents were asked to select the ten most valued traits wanted in their workers for a listing of twenty characteristics. Of the total 474 respondents, 465 indicated "works regularly and on time" as being one of the top ten most valued. Of course this is understandable because of the economic involvement. Characteristics relative to personal cleanliness and ability to get along with and communicate with people also were selected as being one of the ten most valued characteristics by 85 percent of the respondents.

Table 1. Agricultural Businesses, Industries, and Agencies in Alabama by Economic Activity

Main Product or Service Categories

- Agricultural Chemical Manufacturers and Wholesales¹
- Dairy Products Manufacturers and Distributors
- Crop Processing, Sales and Warehousing²
- Farm Machinery and Equipment Manufacturers and Wholesales
- Farm Machinery and Equipment Retail Sales and Service
- Farm Service³
- Farm Supply Retail Stores⁴
- Feed Manufacturers and Wholesales
- Flower Production and Sales
- Food Processing and Distribution⁵
- Government Agricultural Services⁶
- Livestock Sales and Service⁷
- Lumber and Wood Products⁸
- Meat Processing and Wholesales⁹
- Nursery Production, Sales and Landscaping Service

-
- 1 Fertilizers, herbicides, insecticides and gum and wood chemicals
 - 2 Farm products (raw materials)
 - 3 Does not include government agricultural services
 - 4 Includes hardware stores in non-metropolitan areas
 - 5 Includes canned and frozen food plants, flour mills, meat mills, and crop oil mills
 - 6 Includes state and federal agencies
 - 7 Includes stockyards and special services
 - 8 Includes pulp mills, logging, pulp-wood contractor, sawmills, planing mills, and forest nurseries
 - 9 Includes meat packing plants and freezer plants

Table 1 (continued)

Main Product or Service Categories

Ornamental Plant Service and Turf Care¹⁰

Pest Control Service

Poultry and Poultry Processing and Sales

¹⁰Includes parks, cemeteries, golf courses, country clubs and others.

Table 2. Occupations in Off-farm Agricultural Businesses, Industries and Agencies in Alabama by Economic Activity

Agricultural Chemical Manufacturers and Wholesales

- | | |
|-------------------------|---------------------------------------|
| 1. General Manager | 8. Fertilizer Salesman |
| 2. Plant Superintendent | 9. Insecticide and Herbicide Salesman |
| 3. Sales Manager | 10. Plant Office Clerk |
| 4. Agronomists | 11. Warehouse Stock Clerk |
| 5. Technical Fieldman | 12. Millwright ¹ |
| 6. Educational Director | 13. Warehouse Serviceman ² |
| 7. Plant Supervisor | |

Dairy Products Manufacturers and Distributors

- | | |
|----------------------------|-----------------------------|
| 14. General Plant Manager | 18. Dairy Plant Fieldman |
| 15. Dairy Plant Supervisor | 19. Bulk Tank Truck Driver |
| 16. Route Supervisor | 20. Dairy Products Salesman |
| 17. Dairy Technologist | 21. Dairy Plant Worker |

Cotton Processing, Sales and Warehousing

- | | |
|----------------------------------|-------------------------------|
| 22. Gin and Warehouse Manager | 26. Gin Operator ³ |
| 23. Cotton Fieldman | 27. Ginwright ¹ |
| 24. Cotton Buyer | 28. Ginner ⁴ |
| 25. Gin and Warehouse Bookkeeper | 29. Warehouseman |

Farm Machinery Retail Sales and Service

- | | |
|---|--|
| 30. General Manager | 34. Farm Machinery Parts Clerk |
| 31. Farm Machinery Service Center Manager | 35. Farm Machinery Business Bookkeeper |
| 32. Farm Machinery Parts Manager | 36. Farm Machinery Mechanic |
| 33. Farm Machinery Salesman | 37. Farm Machinery Field Mechanic |

-
- 1 Worker that changes the layout and set-up of machines and mechanical equipment, keeps the machines and equipment in efficient operating condition and performs duties such as dismantling, moving, installing and repairing machines.
- 2 Worker performing a service for the benefit of another worker or customer
- 3 Worker that tends machine that separates cotton from seed
- 4 Worker performing semi-skilled duties entailing in the suction feeding, hydraulic pressing, etc. in cotton processing

Table 2 (continued)

Farm Supply and Equipment Retail Stores

- | | |
|--|---|
| 38. Farm Supply and Equipment Store Manager | 42. Farm Supply Store Bookkeeper |
| 39. Farm Supply and Equipment Store Fieldman | 43. Farm Equipment Parts Clerk |
| 40. Farm Supplies and Equipment Salesman | 44. Farm Supply Store Stock Clerk |
| 41. Farm Supply Store Sales Clerk | 45. Farm Equipment and Facilities Maintenance Man |
| | 46. Farm Supply Store Serviceman ² |

Feed Manufacturers and Wholesales

- | | |
|---------------------------|---------------------------------------|
| 47. General Manager | 52. Feed Mill Operator |
| 48. Mill Manager | 53. Feed Mixer Operator |
| 49. Mill Supervisor | 54. Millwright ¹ |
| 50. Feed Salesman | 55. Feed Mill Serviceman ² |
| 51. Warehouse Stock Clerk | |

Farm Service

- | | |
|---------------------------------------|---|
| 56. Feeding Unit Manager | 64. Liquid Fertilizer Applicator Machine Operator |
| 57. Mobile Feed Mill Operator | 65. Seed Cleaner Operator |
| 58. Facilities Maintenance Man | 66. Rural Electrification Advisor |
| 59. Poultry Fieldman | 67. PCA Office Manager |
| 60. Bulk Feed Truck Driver | 68. PCA Field Representative |
| 61. Custom Work Business Manager | |
| 62. Custom Farm Machine Operator | |
| 63. Bulk Fertilizer Spreader Operator | |

Flower Production and Sales

69. Florists

1 Worker that changes the layout and set-up of machines and mechanical equipment, keeps the machines and equipment in efficient operating condition and performs duties such as dismantling, moving, installing and repairing machines

2. Worker performing a service for the benefit of another worker or customer

Table 2 (continued)

Food Processing and Distribution

- | | |
|----------------------|-----------------------------|
| 70. General Manager | 73. Machine Operators |
| 71. Plant Supervisor | 74. Graders |
| 72. Produce Buyer | 75. Millwright ¹ |

Government Agricultural Services

- | | |
|---|------------------------------------|
| 76. Agricultural Economist | 100. Poultry Products Inspector |
| 77. Agricultural Engineer | 101. Produce Inspector |
| 78. Animal Scientist | 102. Seed Analyst |
| 79. Agronomist | 103. Seed Technologist |
| 80. County Agricultural Extension Agent | 104. Veterinarian Assistant |
| 81. Entomologist | 105. Wildlife Conservation Officer |
| 82. Forester | 106. Agricultural Journalist |
| 83. Ornamental Horticulturist | 107. ASCS Compliance Fieldman |
| 84. Plant Scientist | 108. ASCS District Fieldman |
| 85. Soil Scientist | 109. ASCS County Fieldman |
| 86. Teacher of Vocational Agriculture | 110. ASCS County Office Manager |
| 87. Veterinarian | 111. ASCS Program Specialist |
| 88. Wildlife Biologist | 112. ASCS Performance Checkers |
| 89. Farmer Home Administration Supervisor | 113. Crop Insurance Fieldman |
| 90. Federal Land Bank Appraiser | 114. Cotton Classers |
| 91. Federal Land Bank Field Manager | 115. Forest Patrolman |
| 92. Agricultural Chemical Inspector | 116. Forest Towerman |
| 93. Gin and Warehouse Inspector | 117. Forest Rangers |
| 94. Grain Sampler | 118. Livestock Market Analyst |
| 95. Lands Inspector | 119. Market New Analyst |
| 96. Livestock Inspector | 120. Park Ranger |
| 97. Milk Marketing Examiner | 121. Soil Conservationist |
| 98. Plant Industry Inspector | 122. Soil Conservation Technician |
| 99. Poultry Inspector | |

Livestock Sales and Service

- | | |
|-----------------------------|-----------------------------|
| 123. Stockyard Manager | 125. Veterinarian |
| 124. Artificial Inseminator | 126. Veterinarian Assistant |

¹ Worker that changes the layout and set-up of machines and mechanical equipment, keeps the machines and equipment in efficient operating condition and performs duties such as dismantling, moving, installing and repairing machines

Table 2 (continued)

Livestock Sales and Service

- | | |
|----------------------|-----------------------------|
| 127. Auctioneer | 130. Livestock Grader |
| 128. Livestock | 131. Stockyard Weighmaster |
| 129. Stockyard Clerk | 132. Stockyard Sorter |
| | 133. Livestock Truck Driver |

Lumber and Wood Products

- | | |
|-------------------------------------|------------------------------------|
| 134. Pulpwood Yard Manager | 143. Lo Scaler ¹ |
| 135. Sawmill Manager | 144. Millwright ¹ |
| 136. Pole Yard Manager | 145. Rolling Equipment Operator |
| 137. Forester | 146. Lumber Checker |
| 138. Pulpwood Yard Supervisor | 147. Lumber Grader |
| 139. Woods Supervisor | 148. Pole Inspector |
| 140. Pole Treating Plant Supervisor | 149. Stationary Equipment Operator |
| 141. Timber Buyer= | 150. Timber Marker |
| 142. Timber Cruiser | |

Meat Processing and Wholesales

- | | |
|-----------------------|--------------------------|
| 151. Plant Manager | 155. Meat Cutter |
| 152. Plant Supervisor | 156. Livestock Grader |
| 153. Livestock Buyer | 157. Locker Plant Worker |
| 154. Meat Salesman | |

Nursery Production, Sales and Landscaping Service

- | | |
|------------------------------------|--------------------------------|
| 158. Nursery Manager | 162. Nursery Stock Salesman |
| 159. Landscape Gardener | 163. Propagator |
| 160. Nursery Production Supervisor | 164. Nursery Production worker |
| 161. Landscape Architect | 165. Equipment Operator |

Ornamental Plant Service and Turf Care

- | | |
|------------------------|-------------------|
| 166. Landscape Gardner | 168. Park Ranger |
| 167. Green Keeper | 169. Tree Surgeon |

Pest Control Service

- | | |
|------------------------------------|----------------------------------|
| 170. Pest Control Business Manager | 171. Exterminator |
| | 172. Pest Control Route Salesman |

¹ Worker that changes the layout and set-up of machines and mechanical equipment, keeps the machines and equipment in efficient operating condition and performs duties such as dismantling, moving, installing and repairing machines

Table 2 (continued)

Poultry and Poultry Product Processing and Sales

173.	Hatchery Manager	179.	Poultry and Egg Salesman
174.	Egg Processing Plant Manager	180.	Poultry and Egg Buyer
175.	Poultry Meat Processing Manager	181.	Hatchery Worker
176.	Poultry Fieldman	182.	Egg Candler
177.	Hatchery Supervisor	183.	Poultry Meat Processor
178.	Poultry Meat Processing Plant Supervisor	184.	Live Poultry Truck Driver

Table 3. Ordinal Ranking of Employee Personal Characteristics as Valued by Four Hundred and Seventy-four Employers in Off-farm Agricultural Businesses and Industries in Alabama

Personal Characteristics	Number of Responses as Being One of Ten Most Valued
Works regularly and on time	465
Gets along with his fellow workers	463
Fulfills promises and obligations	462
Initiates undertakings	461
Completes his work	456
Speaks clearly and correctly	448
Makes wise use of time	445
Can express his ideas well	434
Is orderly in his work	433
Exhibits personal cleanliness and neatness	425
Uses good English in written form	415
Is honest in word and deed	413
Admits error when shown wrong	412
Possesses forceful personality	400
Seems happy in his work	398
Arouses enthusiasm in his fellow workers	370
Exhibits endurance in continued effort	325
Shows intellectual curiosity	315
Participates in civic activities	312
Places group above himself	310

Educational Requirement. The minimum educational grade levels for individuals desiring to enter occupations as expressed by the employing respondents are revealed in Table 4. It will be noted that a majority of the respondents indicated a minimum of high school education for all occupations with a few exceptions. In most cases these were semi-skill level occupations. Table 4 also depicts that managerial level positions are open to individuals with a high school education. It should be assumed however that age, experience, and the high school education are closely associated factors for entry into managerial occupations. The factors of age and experience may not be as closely associated with the employment of post-high school education graduates for managerial positions.

Post-High School Educations for Occupations. As reflected in Table 4, many of the respondents indicated that they do hire individuals with only a high school education. It will also be noted in Table 5 that technical short courses are not required for entry into many of the occupations. Table 5 also indicates that for those firms requiring technical training, such training is usually provided through on-the-job training by the firm or through some commercial concern. Very few firms utilize the public schools for employee training.

Table 4. Minimum Education Grade Levels for Individual Desiring to Enter Selected Occupations in Off-farm Agricultural Businesses and Industries as Expressed by the Employers Interviewed in Alabama

Headnote:

- | | | |
|------------------------------------|------------------------|--------------------|
| 1. Will hire less than high school | 3. Post H.S. Technical | 6. Doctor's Degree |
| 2. High School | 4. B. S. Degree | 7. Doesn't matter |
| | 5. Master's Degree | |

Occupations by main product or service categories	Number of Persons Expressing (See headnote for level)							Total
	1	2	3	4	5	6	7	
Agricultural Chemical Manufacturers and Wholesales								
General Manager	0	10	1	10	1	0	0	22
Sales Manager	0	9	0	7	0	0	1	17
Warehouse Stock Clerk	1	9	0	0	0	0	1	11
Warehouse Serviceman	4	6	3	0	0	0	1	14
Dairy Products Manufacturers and Distributors								
General Plant Manager	0	2	4	3	0	0	0	9
Dairy Plant Supervisor	0	4	1	0	0	0	0	6
Bulk Tank Truck Driver	2	2	0	0	0	0	0	4
Dairy Products Salesman	0	6	1	0	0	0	0	7
Dairy Plant Worker	3	7	1	0	0	0	2	13
Cotton Processing, Sales and Warehousing								
Gin and Warehouse Manager	0	8	1	0	0	0	0	9
Cotton Buyer	0	5	1	0	0	0	0	7

Table 4 (continued)

Occupations by main product
or service categories

Cotton Processing, Sales and Warehousing (continued)

Gin and Warehouse Bookkeeper

Gin Operator

Ginwright

Ginner

Warehouseman

Farm Machinery Retail Sales and
Service

General Manager

Farm Machinery Salesman

Farm Machinery Parts Clerk

Farm Machinery Business Bookkeeper

Farm Machinery Mechanic

Farm Machinery Field Mechanic

Farm Supply and Equipment Retail Stores

Farm Supply and Equipment Store Manager

Farm Supplies and Equipment Salesman

Farm Supply Store Sales Clerk

Farm Supply Store Bookkeeper

	Number of Persons Expressing for level)							Total
	1	2	3	4	5	6	7	
Gin and Warehouse Bookkeeper	0	2	7	1	0	0	1	10
Gin Operator	1	10	0	0	0	0	0	11
Ginwright	0	3	2	0	0	0	0	5
Ginner	14	2	0	0	0	0	0	16
Warehouseman	6	4	0	0	0	0	0	10
Farm Machinery Retail Sales and Service								
General Manager	0	5	4	2	0	0	0	11
Farm Machinery Salesman	3	12	1	4	0	0	0	20
Farm Machinery Parts Clerk	3	24	1	0	0	0	0	28
Farm Machinery Business Bookkeeper	0	5	4	0	0	0	0	9
Farm Machinery Mechanic	1	16	29	0	0	0	2	48
Farm Machinery Field Mechanic	4	4	1	0	0	0	0	9
Farm Supply and Equipment Retail Stores								
Farm Supply and Equipment Store Manager	0	17	4	5	0	0	0	26
Farm Supplies and Equipment Salesman	1	17	3	0	0	0	0	21
Farm Supply Store Sales Clerk	6	18	0	0	0	0	0	24
Farm Supply Store Bookkeeper	0	6	2	0	0	0	0	8

Table 4 (continued)

Occupations by main product
or service categories

Farm Supply and Equipment Retail Stores (cont'd.)

Farm Supply Store Serviceman

Feed Manufacturers and Wholesales

Mill Manager

Feed Salesman

Feed Mill Operator

Feed Mill Serviceman

Farm Service

Poultry Fieldman

Custom Farm Machine Operator

PCA Office Manager

PCA Field Representative

Flower Production and Sales

Florists

Food Processing and Distribution

General Manager

Plant Supervisor

Produce Buyer

Machine Operators

(See headnote
for level)

Number of Persons Expressing								Total
1	2	3	4	5	6	7		

14	10	0	0	0	0	0	24
----	----	---	---	---	---	---	----

0	5	16	5	4	0	0	27
---	---	----	---	---	---	---	----

0	2	5	4	0	0	0	11
---	---	---	---	---	---	---	----

2	13	6	0	0	0	0	19
---	----	---	---	---	---	---	----

18	12	0	0	0	0	0	30
----	----	---	---	---	---	---	----

0	5	2	4	0	0	0	11
---	---	---	---	---	---	---	----

2	5	0	0	0	0	0	7
---	---	---	---	---	---	---	---

0	0	0	12	0	0	0	12
---	---	---	----	---	---	---	----

0	8	0	4	0	0	0	12
---	---	---	---	---	---	---	----

4	13	2	0	0	0	0	19
---	----	---	---	---	---	---	----

0	2	5	1	1	0	0	9
---	---	---	---	---	---	---	---

0	3	3	1	0	0	0	7
---	---	---	---	---	---	---	---

0	2	3	1	0	0	1	7
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2	3	0	0	0	0	0	5
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Table 4 (continued)

Occupations by main product or service categories

Food Processing and Distribution (cont'd.)

Graders

	Number of Persons Expressing (See headnote for level)							Total
	1	2	3	4	5	6	7	
Graders	2	3	0	0	0	0	0	5

Livestock Sales and Service

Stockyard Manager

Stockyard Manager	0	3	2	1	0	0	0	6
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Artificial Inseminator

Artificial Inseminator	0	2	2	0	0	0	0	4
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Livestock Buyer

Livestock Buyer	1	6	1	0	0	0	0	8
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Stockyard Clerk

Stockyard Clerk	5	6	6	0	0	0	0	17
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Stockyard Sorter

Stockyard Sorter	3	1	0	0	0	0	0	4
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Livestock Truck Driver

Livestock Truck Driver	6	3	0	0	0	0	0	9
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Lumber and Wood Products

Pulpwood Yard Manager

Pulpwood Yard Manager	2	6	4	0	0	0	2	14
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Sawmill Manager

Sawmill Manager	3	7	2	0	0	0	0	12
-----------------	---	---	---	---	---	---	---	----

Forester

Forester	0	3	3	6	0	0	0	12
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Pulpwood Yard Supervisor

Pulpwood Yard Supervisor	2	6	0	0	0	0	0	8
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Timber Cruiser

Timber Cruiser	2	6	0	0	0	0	0	8
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Millwright

Millwright	3	6	0	0	0	0	0	9
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Rolling Equipment Operator

Rolling Equipment Operator	4	8	0	0	0	0	0	12
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Pole Inspector

Pole Inspector	2	5	0	0	0	0	0	7
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Stationary Equipment Operator

Stationary Equipment Operator	22	4	0	0	0	0	0	27
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Table 4 (continued)

Occupations by main product or service categories	Number of Persons Expressing (See headnote for level)							Total
	1	2	3	4	5	6	7	
Meat Processing and Wholesales								
Plant Manager	0	1	3	0	0	0	0	4
Plant Supervisor	0	1	4	0	0	0	0	4
Meat Salesman	0	1	5	2	0	0	0	8
Meat Cutter	0	5	7	0	0	0	0	12
Locker Plant Worker	5	9	1	0	0	0	0	15
Nursery Production, Sales and Landscaping Service								
Nursery Manager	0	4	9	3	0	0	0	16
Landscape Gardener	0	14	9	8	0	0	0	31
Nursery Production Supervisor	2	6	1	0	0	0	0	9
Propagator	2	5	2	0	0	0	0	9
Ornamental Plant Service and Turf Care								
Green Keeper	2	2	2	0	0	0	0	6
Tree Surgeon	2	5	1	0	0	0	0	8
Pest Control Service								
Exterminator	0	6	3	2	0	0	0	11
Pest Control Route Salesman	0	3	4	0	0	0	0	7

Table 4 (continued)

Occupations by main product
or service categoriesPoultry and Poultry Product Processing
and Sales

	Number of Persons Expressing (See headnote for level)							Total
	1	2	3	4	5	6	7	
Hatchery Manager	0	4	4	0	0	0	0	8
Egg Processing Plant Manager	0	4	1	0	0	0	0	5
Hatchery Supervisor	0	2	4	0	0	0	0	6
Poultry and Egg Buyer	0	4	1	0	0	0	0	5
Hatchery Worker	1	11	0	0	0	0	0	9
Egg Candler	11	2	0	0	0	0	0	12
Poultry Meat Processor	6	4	0	0	0	0	0	10
Live Poultry Truck Driver	8	4	0	0	0	0	0	12

Table 5. Technical Short Courses Required for Entry into Selected Occupations in Off-farm Agricultural Businesses and Industries as Expressed by Employers Interviewed in Alabama.

Headnote:

- | | |
|-----------------------------------|--|
| *1. None required | 4. Provided by public school less than college grade |
| 2. Provided by firm | 5. Provided by agri. college |
| 3. Provided by commercial concern | |

Occupations by main product or service	(See headnote Number Persons Expressing for course)					Total
	1	2	3	4	5	
Agricultural Chemical Manufacturers and Wholesales						
General Manager	10	2	2	4	4	22
Sales Manager	10	4	0	0	3	17
Warehouse Stock Clerk	7	3	1	0	0	11
Warehouse Serviceman	7	3	4	0	0	14
Dairy Products Manufacturers and Distributors						
General Plant Manager	4	2	0	0	3	9
Dairy Plant Supervisor	3	3	0	0	0	6
Bulk Tank Truck Driver	1	3	0	0	0	4
Dairy Products Salesman	3	4	0	0	0	7
Dairy Plant Worker	8	4	1	0	0	13
Cotton Processing, Sales and Warehousing						
Gin and Warehouse Manager	1	6	1	1	0	9
Cotton Buyer	5	2	0	0	0	7
Gin and Warehouse Bookkeeper	1	5	4	0	0	10
Gin Operator	1	9	1	0	0	11
Ginwright	3	0	2	0	0	5
Ginner	1	14	1	0	0	16
Warehouseman	1	8	1	0	0	10

Headnote:

- | | |
|-----------------------------------|--|
| *1. None required | 4. Provided by public school less than college grade |
| 2. Provided by firm | 5. Provided by agri. college |
| 3. Provided by commercial concern | |

Occupations by main product or service categories

(See headnote)
Number Persons Expressing for course)
 1 2 3 4 5 Total

Farm Machinery Retail Sales and Service

General Manager	2	2	1	2	2	11
Farm Machinery Salesman	9	6	2	3	0	20
Farm Machinery Parts Clerk	2	15	11	0	0	28
Farm Machinery Business Bookkeeper	2	3	4	0	0	9
Farm Machinery Mechanic	4	17	27	0	0	48

Farm Supply and Equipment Retail Stores

Farm Supply and Equipment Store Manager	6	2	1	0	0	9
Farm Supplies and Equipment Salesman	8	8	5	4	1	26
Farm Supply Store Sales Clerk	14	0	5	1	1	21
Farm Supply Store Bookkeeper	1	16	4	0	3	24
Farm Supply Store Serviceman	8	0	0	0	0	8

Feed Manufacturers and Wholesales

Mill Manager	0	20	1	0	2	24
Feed Salesman	2	15	5	0	5	27
Feed Mill Operator	1	10	1	0	0	12
Feed Mill Serviceman	13	6	0	0	0	19

Farm Service

Poultry Fieldman	0	24	3	0	3	30
Custom Farm Machine Operator	2	9	0	0	0	11

Headnote:

- *1. None required
 2. Provided by firm
 3. Provided by commercial concern
 4. Provided by public school less than college grade
 5. Provided by agri. college

Occupations by main product or service categories

(See headnote)
Number Persons Expressing for course
 1 2 3 4 5 Total

Farm Service (continued)

PCA Office Manager 0 8 2 0 2 12

PCA Field Representative 0 8 2 0 0 12

Flower Production and Sales

Florists 2 11 3 0 3 19

Food Processing and Distribution

General Manager 1 8 0 0 0 9

Plant Supervisor 3 3 1 0 0 7

Produce Buyer 1 6 0 0 0 7

Machine Operators 3 1 1 0 0 5

Graders 1 4 0 0 0 5

Government Agricultural Services

Livestock Sales and Service

Stockyard Manager 4 1 0 0 1 6

Artificial Inseminator 0 4 0 0 0 4

Livestock Buyer 5 3 0 0 0 8

Stockyard Clerk 14 3 0 0 0 17

Stockyard Sorter 17 0 0 0 0 17

Livestock Truck Driver 4 0 0 0 0 4

Lumber and Wood Products

Pulpwood Yard Manager 5 2 1 0 1 9

Sawmill Manager 2 9 0 0 3 14

Forester 5 2 0 0 5 12

Headnote:

- | | |
|-----------------------------------|--|
| *1. None required | 4. Provided by public school less than college grade |
| 2. Provided by firm | 5. Provided by agri. college |
| 3. Provided by commercial concern | |

Occupations by main product or service categories	Number Persons Expressing					(See headnote for course)
	1	2	3	4	5	Total
Lumber and Wood Products (continued)						
Pulpwood Yard Supervisor	11	1	0	0	0	12
Timber Cruiser	1	7	0	0	0	8
Millwright	7	2	0	0	0	9
Rolling Equipment Operator	10	2	0	0	0	12
Pole Inspector	0	7	0	0	0	7
Stationary Equipment Operator	25	0	0	2	0	27
Meat Processing and Wholesales						
Plant Manager	0	2	3	0	0	5
Plant Supervisor	0	3	2	0	0	5
Meat Salesman	5	3	0	0	0	8
Meat Cutter	6	4	2	0	0	12
Locker Plant Worker	9	3	0	3	0	15
Nursery Production, Sales and Landscaping Service						
Nursery Manager	8	2	2	3	1	16
Landscape Gardener	20	0	3	4	4	31
Propagator	3	4	0	2	0	9
Nursery Production Worker	9	3	0	1	1	14
Ornamental Plant Service Turf Care						
Green Keeper	6	0	0	0	0	6
Tree Surgeon	7	0	0	1	0	8
Pest Control Service						
Exterminator	8	2	1	0	0	11

Headnote:

- | | |
|-----------------------------------|--|
| *1. None required | 4. Provided by public school less than college grade |
| 2. Provided by firm | 5. Provided by agri. college |
| 3. Provided by commercial concern | |

Occupations by main product or service categories

(See headnote for course)

Number	Persons	Expressing			
1	2	3	4	5	Total

Pest Control Service (continued)

Pest Control Route Salesman	3	4	0	0	0	7
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Poultry and Poultry Product Processing and Sales

Hatchery Manager	4	1	0	2	1	8
Egg Processing Plant Manager	4	1	0	0	0	5
Hatchery Supervisor	4	2	0	0	0	6
Poultry and Egg Buyer	3	1	1	0	0	5
Hatchery Worker	9	3	0	0	0	12
Egg Candler	7	2	0	0	1	10
Poultry Meat Processor	9	0	0	1	0	10
Live Poultry Truck Driver	9	3	0	0	0	12

Residential Background Preference. Table 6 reflects the residential background preferences of employers for persons entering occupations in agriculture. A vast majority of the respondents indicated that they preferred workers with a farm background; while a small percentage indicated no preference.

It will be noted that those few individuals indicating "no preference" did so primarily for managerial, sales, clerical and semi-skilled occupations in only a few of the main product and service categories. Respondents expressing the greatest percentage of "no preference" as contrasted to "farm background" by other economic activities, were lumber and wood products and meat processing and sales.

Familiarity of Instruction in Vocational Agriculture. As reflected in Table 7, of the 474 respondents contacted, 258 (54 percent) were either familiar or very familiar with the instructional program of vocational agriculture. Sixty-eight (14 percent) were somewhat familiar. The economic activities in which the number of respondents not familiar exceeded the number familiar with the program were: chemical manufacturers and wholesales; flower production and sales; food processing and distribution; ornamental plant service and turf care; and pest control service.

Table 6. Residential Background Preference for Individuals Entering Occupations as Expressed by the Employers Interviewed in Off-farm Agricultural Businesses and Industries in Alabama.

Headnote:					
*1. Farm background			3. Urban		
2. Rural, non-farm			4. No preference		
Occupations by main product or service categories	Number of Persons Expressing for background				(See headnote Total)
	*1	2	3	4	
Agricultural Chemical Manufacturers and Wholesales					
General Manager	12	2	0	8	22
Sales Manager	11	1	0	4	17
Warehouse Stock Clerk	7	3	0	1	11
Warehouse Serviceman	8	3	0	3	14
Dairy Products Manufacturers and Distributors					
General Plant Manager	7	0	0	2	9
Dairy Plant Supervisor	5	0	0	1	4
Bulk Tank Truck Driver	4	0	0	0	4
Dairy Products Salesman	4	1	0	3	7
Dairy Plant Worker	10	1	0	2	13
Cotton Processing, Sales and Warehousing					
Gin and Warehouse Manager	8	1	0	0	9
Cotton Buyer	4	1	0	2	7
Gin and Warehouse Bookkeeper	4	2	0	4	10
Gin operator	10	0	0	1	11
Ginwright	4	0	0	1	5
Ginner	12	2	0	2	16
Warehouseman	6	1	0	3	10

Headnote:

- *1. Farm background
- 2. Rural, non-farm

- 3. Urban
- 4. No preference

Occupations by main product
or service categories

Number of Persons Expressing (See headnote
for background)
1 2 3 4 Total

Farm Machinery Retail Sales
and Service

General Manager	11	0	0	0	11
Farm Machinery Salesman-	17	3	0	0	20
Farm Machinery Parts Clerk	23	0	0	5	28
Farm Machinery Business Bookkeeper	7	0	0	2	9
Farm Machinery Mechanic	43	1	0	4	48
Farm Machinery Field Mechanic	9	0	0	0	9

Farm Supply and Equipment
Retail Stores

Farm Supply and Equipment Store Manager	20	1	1	4	26
Farm Supplies and Equipment Salesman	19	1	0	2	22
Farm Supply Store Sales Clerk	19	2	0	3	24
Farm Supply Store Bookkeeper	7	0	0	1	8
Farm Supply Store Serviceman	20	0	0	4	24

Feed Manufacturers and Wholesales

General Manager	24	0	1	2	27
Mill Supervisor	5	0	0	0	5
Feed Mill Operator	16	0	0	3	19
Feed Mill Serviceman	25	1	0	0	26

Farm Service

Poultry Fieldman	5	0	0	0	5
Custom Farm Machine Operator	7	0	0	0	7

Headnote:

- *1. Farm background
- 2. Rural, non-farm

- 3. Urban
- 4. No Preference

Occupations by main product or service categories

(See headnote for background)
Number of Persons Expressing
 1 2 3 4 Total

Flower Production and Sales

Florists	8	0	3	7	18
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Food Processing and Distribution

General Manager	9	0	0	0	9
Plant Supervisor	6	0	0	1	7
Produce Buyer	7	0	0	0	7
Machine Operators	3	0	0	2	5
Graders	5	0	0	0	5

Government Agricultural Services

Livestock Sales and Service

Stockyard Manager	6	0	0	0	6
Artificial Inseminator	4	0	0	0	4
Livestock Buyer	7	1	0	0	8
Stockyard Sorter	15	0	0	2	17
Livestock Truck Driver	4	0	0	0	4

Lumber and Wood Products

Pulpwood Yard Manager	6	2	0	1	9
Sawmill Manager	3	2	0	9	14
Forester	6	2	1	3	12
Pulpwood Yard Supervisor	8	0	0	4	12
Timber Cruiser	2	0	0	6	8
Millwright	3	1	0	5	9
Rolling Equipment Operator	7	0	0	5	12

Headnote:

- *1. Farm background
- 2. Rural, non-farm

- 3. Urban
- 4. No Preference

Occupations by main product
or service categories

Number of Persons Expressing (See headnote
for background)
1 2 3 4 Total

Lumber and Wood Products (cont'd.)

Pole Inspector	2	0	0	5	7
Stationary Equipment Operator	4	0	1	22	27

Meat Processing and Wholesales

Plant Manager	2	0	0	3	5
Plant Supervisor	4	1	0	0	5
Meat Salesman	4	0	1	3	8
Meat Cutter	7	0	0	5	12
Locker Plant Worker	5	1	1	8	15

Nursery Production, Sales and
Landscaping Service

Nursery Manager	13	2	0	1	16
Landscape Gardener	21	2	1	7	31
Propagator	7	0	1	1	9

Ornamental Plant Service and
Turf Care

Green Keeper	6	0	0	0	6
Tree Surgeon	4	2	0	2	8

Pest Control Service

Exterminator	6	2	0	3	11
Pest Control Route Salesman	2	0	0	5	7

Poultry and Poultry Product
Processing and Sales

Hatchery Manager	6	0	1	1	8
Egg Processing Plant Manager	3	0	0	2	5

Headnote:

- *1. Farm background
- 2. Rural, non-farm

- 3. Urban
- 4. No Preference

Occupations by main product
or service categories

(See headnote
Number of Persons Expressing for background)
1 2 3 4 Total

Poultry and Poultry Product
Processing and Sales (cont'd.)

Hatchery Supervisor	5	0	0	1	6
Poultry Meat Processing Plant Supervisor	2	0	0	3	5
Poultry and Egg Buyer	4	0	0	1	5
Hatchery Worker	7	0	0	5	12
Egg Candler	6	0	1	3	10
Poultry Meat Processor	1	0	1	8	10
Live Poultry Truck Driver	5	1	0	6	12

Table 7. Familiarity of the Employers Interviewed in Off-farm Agricultural Business and Industry Categories in Alabama with the Instructional Program of Vocational Agriculture.

Headnote:

1. Very familiar

2. Familiar

3. Somewhat familiar

4. Not familiar

Product or Service Categories

	Number Expressing (See headnote)				Total
	1	2	3	4	
Agricultural Chemical Manufacturers and Wholesales	2	6	2	14	24
Dairy Products Manufacturers and Distributors	2	4	5	8	19
Cotton Processing, Sales and Warehousing	12	4	8	3	27
Farm Machinery and Equipment Retail Sales and Service	30	3	5	1	39
Farm Service	8	6	3	1	18
Farm Supply Retail Stores	18	31	1	6	56
Feed Manufacturers and Wholesales	12	8	2	4	26
Flower Production and Sales	1	2	5	10	18
Food Processing and Distribution	3	3	1	12	19
Livestock Sales and Service	4	30	18	41	93
Lumber and Wood Products	6	18	6	1	31
Meat Processing and Wholesales	2	6	3	5	16
Nursery Production, Sales and Landscaping Services	8	5	4	10	27
Ornamental Plant Service and Turf Care	3	4	1	15	23
Pest Control Service	3	2	1	5	11
Poultry and Poultry Processing and Sales	12	6	3	6	27
TOTALS.	126	138	68	142	474

Degree of Proficiency Vocational Agriculture could Prepare Workers.

Table 8 reflects the opinions of the respondents as to the degree which vocational agriculture could prepare workers for agricultural firms. A majority of individuals expressed opinions varying from "very proficient" to "somewhat proficient." The opinions varied for occupations and for occupations within the main product and service categories. Expressions of lesser degrees of proficiency were expressed for skilled occupations.

Feasibility of Type of Instructional Programs. Table 9 reveals the feasibility ranking of four types of instruction programs for providing instruction for occupations in off-farm agricultural firms at the secondary school level. It is quite evident that the respondents believe the program of production agriculture and mechanics would not be the best approach. A vast majority agreed, as evident by their ranking, that the occupational clustering approach for related instruction and cooperative occupational experience program would be the most feasible approach. The responses were fairly well distributed with regard to operational approach for providing the instruction.

Table 8. Opinions of Employers Interviewed in Alabama As to the Degree of Proficiency the program of Vocational Agriculture could prepare workers for Occupations in Off-farm Agricultural Businesses and Industries.

Headnote:					
#1. Very proficient		3. Somewhat proficient			
2. Proficient		4. Very small degree of proficiency			
Main product or Service categories	(See headnote Number of Persons Expressing for degree)				Total
	#1	2	3	4	
Agricultural Chemical Manufacturers and Wholesales					
General Manager	1	8	11	2	22
Sales Manager	1	8	4	4	17
Warehouse Stock Clerk	5	2	4	0	11
Warehouse Serviceman	4	4	4	2	14
Dairy Products Manufacturers and Distributors					
General Plant Manager	0	2	4	3	9
Dairy Plant Supervisor	0	1	4	1	6
Bulk Tank Truck Driver	2	2	0	0	4
Dairy Products Salesman	2	1	4	0	7
Dairy Plant Worker	2	4	4	3	13
Cotton Processing, Sales and Warehousing					
Gin and Warehouse Manager	0	5	4	0	9
Cotton Buyer	0	2	5	0	7
Gin and Warehouse Bookkeeper	1	4	4	1	10
Gin Operator	1	3	4	3	11
Ginwright	1	3	1	0	5
Ginner	1	12	3	0	16

Headnote:

- *1. Very proficient
- 2. Proficient

- 3. Somewhat proficient
- 4. Very small degree of proficiency

Main product or service categories

(See headnote)
Number of Persons Expressing for degree

*1 2 3 4 Total

Farm Machinery Retail Sales and Service

General Manager	0	2	6	2	10
Farm Machinery Salesman	4	5	0	2	11
Farm Machinery Parts Clerk	9	8	2	1	20
Farm Machinery Business Bookkeeper	3	4	10	11	28
Farm Machinery Mechanic	2	4	18	24	48
Farm Machinery Field Mechanic	0	2	3	4	9

Farm Supply and Equipment Retail Stores

Farm Supply and Equipment Store Manager	7	9	8	2	26
Farm Supplies and Equipment Salesman	5	12	4	1	22
Farm Supply Store Sales Clerk	4	13	7	0	24
Farm Supply Store Bookkeeper	0	2	2	4	8
Farm Supply Store Serviceman	2	8	12	2	24

Feed Manufacturers and Wholesales

General Manager	6	9	10	2	27
Feed Salesman	0	5	0	0	5
Feed Mill Operator	2	9	5	3	19
Feed Mill Serviceman	1	6	11	8	26

Farm Service

Poultry Fieldman	0	0	5	0	5
Custom Farm Machine Operator	0	5	2	0	7

Headnote

- *1. Very Proficient
2. Proficient

3. Somewhat proficient
4. Very small degree of proficiency

Occupations by main product
or service categories

(See headnote)
Number of Persons Expressing for degree

Flower Production and Sales

	1	2	3	4	Total
Florists	2	5	5	6	18

Food Processing and Distribution

General Manager	2	4	3	0	9
Plant Supervisor	0	5	2	0	7
Produce Buyer	2	1	4	0	7
Machine Operators	1	2	2	0	5
Graders	2	1	2	0	5

Government Agricultural Services

Livestock Sales and Service

Stockyard Manager	4	0	2	0	6
Artificial Inseminator	1	1	1	1	4
Livestock Buyer	1	5	2	0	8
Stockyard Sorter	6	7	4	0	17
Livestock Truck Driver	0	0	4	0	4

Lumber and Wood Products

Pulpwood Yard Manager	1	4	3	1	9
Sawmill Manager	3	2	7	2	14
Forester	2	3	3	4	12
Pulpwood Yard Supervisor	2	2	7	1	12
Timber Cruiser	1	3	3	1	8
Millwright	0	1	5	3	9
Rolling Equipment Operator	1	5	4	2	12
Pole Inspector	0	2	4	1	7
Stationary Equipment Operator	0	3	16	8	27

Headnote
 #1. Very Proficient
 2. Proficient

3. Somewhat proficient
 4. Very small degree of proficiency

Occupations by main product
 or service categories

(See headnote
 Number of Persons Expressing for degree)
 1 2 3 4 Total

Meat Processing and Wholesales

Plant Manager	0	0	4	1	5
Plant Supervisor	1	1	1	2	5
Meat Salesman	1	2	4	1	8
Meat Cutter	2	4	4	2	12
Locker Plant Worker	2	1	7	5	15

Nursery Production, Sales and
 Landscaping Service

Nursery Manager	2	6	8	0	16
Landscape Gardener	5	11	13	2	31
Propagator	0	2	5	2	9
Nursery Production Worker	1	6	5	2	14

Ornamental Plant Service and Turf
 Care

Green Keeper	0	1	3	2	6
Tree Surgeon	1	2	2	3	8

Pest Control Service

Exterminator	3	3	2	3	11
Pest Control Route Salesman	0	4	0	3	7

Poultry and Poultry Product
 Processing and Sales

Hatchery Manager	0	1	4	3	8
Egg Processing Plant Manager	0	1	2	2	5
Hatchery Supervisor	2	1	2	1	6
Poultry Meat Processing Plant Supervisor	1	2	2	0	5

Headnote

- *1. Very Proficient
- 2. Proficient

- 3. Somewhat proficient
- 4. Very small degree of proficiency

Occupations by main product
or service categories

(See headnote
Number of Persons Expressing for degree)
1 2 3 4 Total

Poultry and Poultry Product
Processing and Sales (continued)

Poultry and Egg Buyer	0	2	2	1	5
Hatchery Worker	0	4	2	6	12
Egg Candler	1	2	4	3	10
Poultry Meat Processor	0	2	2	6	10
Live Poultry Truck Driver	0	1	6	5	12

Table 9. Expressions of the Employers Interviewed in Alabama as to the Most Feasible Type of Instructional Program for Providing at the High School Level the Pre-employment Needs for Occupations in Off-farm Agricultural Businesses and Industries.

Type of Program	Number of Persons Ranking Feasibility			
	1*	2	3	4 Total
Instruction in production agriculture, leadership and agricultural mechanics supplemented by on-farm production project program experiences	60	67	144	203 474
Instructional program consisting of skills and abilities common to both on-farm and off-farm agricultural occupations supplemented by leadership training and on-farm projects and/or work experience in businesses under the supervision of the business and teacher.	332	92	42	8 474
Instruction consisting of skills and abilities common to both on-farm and off-farm agricultural occupations the first part of the total instructional program followed by training in clusters of agricultural occupations supplemented by leadership training and on-farm production project and/or work experience in businesses under the supervision of the business and teacher.	368	60	32	14 474
Instructional program consisting of skills and abilities common to both on-farm and off-farm agricultural occupation supplemented by leadership training and on-farm projects and/or short exploratory work experience under the supervision of the business and teacher.	232	106	72	64 474

*Ordinal ranking with 1 begin most feasible.

Willingness of Firm to Cooperate with Schools. As reflected in Table 10, most of the firms were willing to cooperate and assist the schools in organizing and administering instructional programs. Only three percent of the 474 contacted indicated that their firm would not be willing to participate.

Anticipated Problems to be Encountered by Cooperating Firms. Although a majority of the firms were willing to cooperate and participate in work experience programs, some problems were anticipated. Sixty-six percent, as shown in Table 11, anticipated problems with liability insurance, while minimum wage law problems were anticipated by fourteen percent of the firms.

Clusters Based on Needed Competencies by Workers. In an effort to cluster occupational categories for program planning, the data collected were subjected to a factor analysis technique. Competency occupation scores were determined for each competency on the interview schedule for each occupation found in the contact sample. After determining the scores for each occupation, scores were determined for each competency for all occupations within each occupational category. These scores were used through a rotational correlation analysis to cluster the occupational categories and competencies. Table 12 reflects occupational categories clustered into five category factors. It is interesting to note that farm supply retail stores factored with four of the five category factors. Food processing and distribution, lumber and wood products, and farm service factored with agricultural machinery sales and service due to a large number of mechanical occupations in the three categories. Dairy products manufacturing and distribution

Table 10. Willingness of Businesses and Industries in Alabama to Participate in a Cooperative Instructional Program for Occupations in Off-farm Agricultural Businesses and Industries.

Degree of Willingness	Of Total (474) Interviewed	
	Number	Percent
Not willing	15	3
Permit students to visit and observe operations	425	90
Employ interested students during vacation periods	389	82
Employ interested students on a part-time basis during the school year	369	78
Employ interested students on a seasonal basis	432	91
Participate in a student work experience program a few hours during the school day on a non-pay basis	412	87
Participate in a student work experience program few hours during the school day on a non-pay basis and a pay basis on weekends	435	91
Work with school personnel in outlining an educational program which would help prepare persons for work in off-farm agricultural occupations	468	99
Release key employees to assist teachers in providing instruction for high school students	312	66

Table 12. Anticipated Problems to be Encountered as Expressed by Employees in Off-farm Agricultural Businesses and Industries in the Employing of Alabama High School Students in Work Experience Educational Programs.

Problem	Of Total (474) Interviewed	
	Number	Percent
Liability Insurance	312	66
Labor Union Regulations	14	3
Time Involved in Training Employees or Work Experience Programs	45	9
Minimum Wage Laws	66	14
Others	5	1

and ornamental plant services and turf care had relatively low rotated factors scores in Category Factor 3 and Category Factor 4.

Table 13 depicts the competencies clusters for all the non-professional and non-managerial level occupations found in the contact sample. The varimax analysis was programmed for sixteen factors. It will be noted in Table 13 that a majority of the competencies clustered into 10 "clean" competency factors with rotated scores of 50 and above. A majority of the rotated scores in factors 11 through 16 were in the 30's and below. Competencies with rotated scores of less than 40 were considered low correlations by the researcher and statistician.

Table 14 reflects competency clusters for occupations within the occupational categories clustered previously and reflected in Table 12. This analysis excludes managerial level occupations. The clustering pattern for the competencies, in general, was the same as for the analysis of all occupations as shown in Table 13. It will be noted however that many rotated competency scores were less than 40 for two or more of the category clusters in plant and soil science, animal and poultry science, crop production, ornamental horticulture and mechanical technology.

Table 12. Occupational Categories Clusters for Economic Activities in Off-farm Agricultural Based on Needed Competencies for Occupations within Businesses, Industries and Agencies in Alabama

Cluster	Rotated Factor Score
Category Factor 1. Crop Production Supply, Sales and Services	
Cotton processing, sales and warehousing	.63 High
Farm services	.62 "
Farm supply retail stores	.60 "
Category Factor 2. Agricultural Machinery Sales and Services	
Farm machinery retail sales and services	.59 "
Farm service	.57 "
Food processing and distribution	.55 "
Lumber and wood products	.40
Category Factor 3. Livestock and Poultry Sales, Services and Products Processing	
Livestock sales and services	.56 "
Meat processing and wholesales	.52 "
Poultry and poultry processing and sales	.50 "
Feed manufacturing and wholesales	.49 "
Dairy products manufacturing and distribution	.40
Category Factor 4. Agricultural Supply, Sales and Services	
Farm supply retail stores	.79 "
Feed manufacturing and wholesales	.76 "
Pest control services	.74 "
Agricultural chemical manufacturing and wholesales	.71 "
Livestock sales and services	.69 "
Ornamental plant services and turf care	.60
Category Factor 5. Horticultural Production, Sales and Services	
Nursery production, sales and services	.60 "
Ornamental plant services and turf care	.58 "
Flower production and sales	.54 "
Farm supply retail stores	.47 "

Table 13. Competencies Clusters for One Hundred Twenty-five Non-professional Occupations in Off-farm Agricultural Businesses, Industries and Agencies in Alabama *

Cluster	Rotated Factor Score	
Competency Factor I - Plant and Soil Science		
Characteristics and properties of soil	.92	High
Soil and plant relationships	.92	"
Fertilizers and plant nutrients	.90	"
Science and practices of soil preparation	.90	"
Science and practices of cultivation	.89	"
Chemical weed control	.88	"
Understanding and controlling plant diseases	.77	
Soil and water management	.66	
Competency Factor II - Animal and Poultry Science		
Fundamentals of animal nutrition	.95	"
Feed and feed values	.94	"
Balancing livestock rations	.92	"
Animal growth and development	.90	"
Maintaining animal health	.87	"
Animal selection and breeding	.75	
Dairying	.72	
Poultry meat production	.66	
Egg production	.50	Low
Competency Factor III - Pest Control		
Understanding and controlling common insects	.66	High
Using insecticides and pesticides	.66	"
Competency Factor IV - Crop Production		
Fruit and nut production	.86	"
Vegetable production	.84	"
Cotton production	.81	"
Grain production	.75	"
Forage production	.74	"
Forestry and forest products	.54	Low
Competency Factor V - Ornamental Horticulture		
Planning an attractive home surrounding	.78	High
Establishing and maintaining ornamental plants	.75	"

*Analysis excluded all managerial level occupations

Competency Factor VI - Farm Business Organization and Management

Agricultural policy	.75	High
Marketing farm products	.72	"
Economic principles and managerial functions in farm business	.71	"

Competency Factor VII - General Business

Principles of economics	.70	"
Business law	.65	"
Management principles	.53	

Competency Factor VIII - Merchandising

Advertising	.70	"
Customer relations	.70	"
Salesmanship	.70	"
Principles of Marketing	.68	"
Business communications	.67	"
Business math	.65	"
Business procedures	.63	"

Competency Factor IX - Basic Mechanical Technology

Developing cold metalworking skills	.89	"
Knowledge of industrial processing	.89	"
Using power metalworking tools	.89	"
Painting and finishing	.89	"
Using power woodworking tools	.86	"
Using an arc and oxyacetylene welder	.85	"
Fuels and lubricants	.84	"
Power mechanics	.80	"
Calculating pre-construction cost	.79	"
Woodworking and carpentry	.78	"
Metallurgy	.77	"
Hydraulics	.77	"
Planning shop projects	.76	"
Freehand sketching and drawing	.76	"

Competency Factor X - Farm Mechanization

Farm electrification	.83	"
Farm buildings and conveniences	.80	"
Farm power and machinery	.52	Low

Table 11.4. Varimax Rotational Analysis of the Competencies Needed by Persons Engaged in Non-professional Occupations in Off-farm Agricultural Businesses, Industries, and Agencies by Occupational Categories Clusters

Headnote:

1. Crop Production supply, sales and service
2. Agricultural machinery sales and services
3. Livestock and poultry sales, services and products processing
4. Agricultural supply, sales and services
5. Horticultural production, sales and services

Competencies Cluster:

Rotated Factor Scores for Competency by Occupational Categories Cluster (see headnote for categories)

	1 (N=24)**	2 (N=33)	3 (N=38)	4 (N=38)	5 (N=22)
I Plant and Soil Science					
Characteristics and properties of soil	.83	.62	.64	.82	.80
Soil and plant relationships	.76	...	.62	.82	.80
Fertilizers and plant nutrients	.80	.61	.63	.80	.80
Science and practice of soil preparation	.62	.71	.52	.76	.78
Science and practices of cultivation	.70	.71	...	.74	.79
Chemical weed control	.84	.73	.63	.82	.83
Understanding and controlling plant diseases	.61	...	...	.79	.76
Soil and water management	...	.73	...	.59	.54
II Animal and Poultry Science					
Fundamentals of animal nutrition	.61	...	.79	.72	.58

*Analysis excluded all managerial level occupations

**N= Number of different occupations in Categories Cluster

Note: Omissions (...) in table cells indicate competency factor scores of less than .40.

	1	2	3	4	5
Feed and feed values	.74	...	.78	.69	.58
Balancing livestock rations	.63	...	.78	.64	.51
Animal growth and development	...	...	.79	.61	.52
Maintaining animal health	.62	...	.77	.71	.53
Animal selection and breeding	...	...	.70	.58	...
Dairying	.58	...	.62	.53	...
Poultry meat production	.62	.54	.56	.56	...
Egg production	.60	...	.58	.52	...
III Pest Control					
Understanding and controlling common insects	.79	.51	.69	.73	.69
Using insecticides and pesticides	.78	.62	.71	.76	.72
IV Crop Production					
Fruit and nut production	.72	.52	...	.62	.54
Vegetable production	.62	.52	...	.60	.56
Cotton production	.71	.63	...	.68	...
Grain production	.60	...	.51	.60	...
Forage production	.60	.61	.63	.66	...
Forestry and forest products	...	.73	...	...	...
V Ornamental Horticulture					
Planning an attractive home surrounding	...	...	...	.62	.83
Establishing and maintaining ornamental plants	.63	...	...	.65	.88
VI Farm Business Organization and Management					
Agricultural policy	.65	.58	.64	.62	.52
Marketing farm products	.70	.74	.73	.78	.58
Economic principles and managerial functions in farm business	.52	.64	.65	.66	.51
VII General Business					
Principles of economics	.62	.65	.63	.64	.62

Table 15 (continued)

	1	2	3	4	5
Business law	.62	.58	.52	.60	.58
Management principles	.58	.60	.64	.52	.59
VIII Merchandising					
Advertising	.63	.66	.63	.58	.52
Customer relations	.70	.71	.73	.73	.74
Salesmanship	.70	.73	.68	.74	.72
Principles of marketing	.68	.69	.74	.71	.73
Business communication	.68	.70	.71	.70	.68
Business math	.73	.71	.73	.74	.69
Business procedures	.73	.72	.76	.77	.65
IX Basic Mechanical Technology					
Developing cold metalworking skills	...	.76	...	.53	.55
Knowledge of industrial processing	.62	.74	.60	.52	...
Using power metalworking tools	...	.70	...	...	...
Painting and finishing	.64	.74	.74	.68	.60
Using power woodworking tools	.65	.65	.63	.63	.53
Using an arc and oxyacetylene welder	...	.74	...	.52	...
Fuels and lubricants	.60	.60	...	.60	.54
Power mechanics	.65	.75	.56	.61	.58
Calculating pre-construction cost	.56	.60	.58	.57	.52
Woodworking and carpentry	.60	.58	...	.53	.53
Metallurgy	.53	.61	...	...	...
Hydraulics	.60	.70	.69	.51	...
Planning shop projects	.60	.68	.64	.66	.63
Freehand sketching and drawing	.56	.66	.63	.67	.72
X Farm Mechanization					
Farm electrification	.65	.68	.51	.53	.56

Table 15 (continued)

	1	2	3	4	5
Farm buildings and conveniences	.70	.69	.54	.56	.58
Farm power and machinery	.60	.78	...	.51	.56

SUMMARY AND CONCLUSIONS

The central problem of this study was to ascertain the pre-employment educational needs for secondary school students desiring to enter non-professional occupations in business, industries and agencies of an off-farm agricultural nature.

The study involved the collection and analysis of data from 474 employers in seventeen different types of agricultural firms in twenty randomly selected counties in the state. The study was designed to investigate a number of questions relative to existing occupations and their characteristics. Data were collected by the interview technique with teachers of vocational agriculture serving as interviewers. Descriptive statistical techniques were used in analyzing the data with no attempt being made to make statistical test interpretation due to use of ordinal type data.

SUMMARY

1. Of the 184 occupations found in the twenty counties within the 474 payroll businesses, 125 were considered non-professional.
2. Personal characteristics relative to cleanliness and the ability to get along and communicate with other people were rated in the top ten most desirable characteristics of employees by 85 percent of the employers interviewed.
3. Semi-skilled occupations were the only occupations in which a majority of the employers indicated that they would hire non-secondary school graduates.
4. Most of the firms contacted indicated that they trained a majority of their employees through on-the-job training.
5. Thirty percent of the employers contacted were not familiar with the vocational agriculture program. A majority of these were located in the metropolis areas.
6. A rural background was preferred for most workers by a majority of the employers.
7. Employers indicated that a majority of the skilled occupations require a more concentrated form of education than can be completed at the secondary school level.
8. A majority of employers indicated that related instruction offered through an occupational cluster approach and concurrently with an occupational experience would probably be the best instructional approach.

9. A majority of the employers indicated a willingness to cooperate with schools in providing an instructional program.
10. Over half of the employers interviewed anticipated problems with liability insurance for student employees.
11. Using a correlation technique and derived competency scores for occupations in seventeen types of firms, the firms clustered into five occupational categories; namely: crop production supply sales and services; agricultural machinery sales and services; livestock and poultry sales, services and products processing; agricultural supply sales and services; and horticultural production, sales and services.
12. Using a correlation technique and derived competency scores for the 125 non-professional occupations in the firms, it was found that the occupational competency clusters areas for the group of 125 occupations were: plant and soil science; animal and poultry science; pest control; crop production; ornamental horticulture; farm business organization and management; general business; merchandising; basic mechanical technology and farm mechanization.
13. Using a correlation technique and derived competency scores for the occupational categories clusters, it was revealed that some competencies within the competency areas of plant and soil science; animal and poultry science; crop production; ornamental horticulture; and mechanical technology are not important for some occupations.

CONCLUSIONS

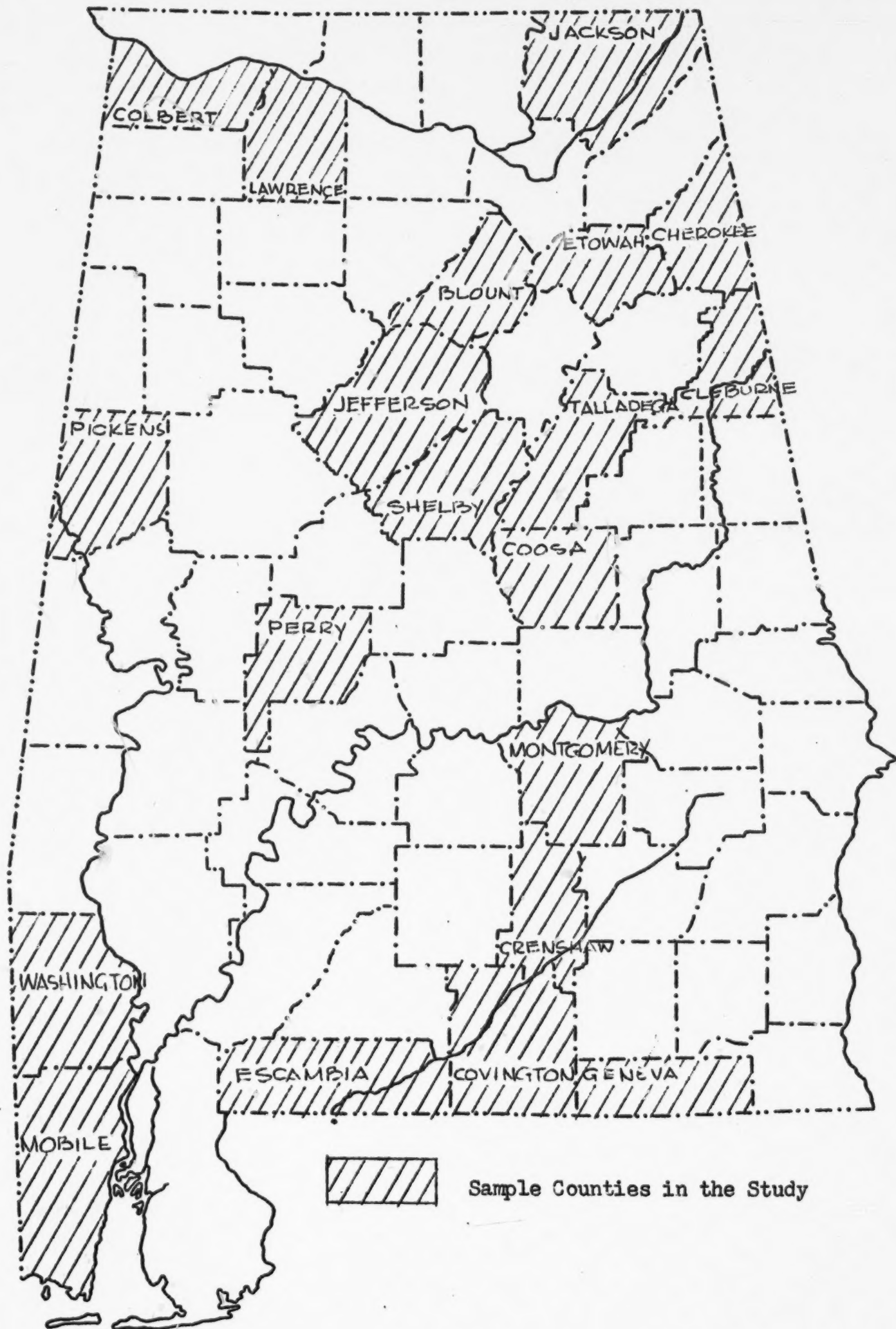
There are many employment opportunities in firms of an agricultural nature. The secondary school program of vocational agriculture must accept the responsibility of preparing or assisting in the preparation of individuals not only for production agriculture, but also for entry into the many occupations in the supporting services.

Conclusions drawn from the results of this study are:

1. Since a majority of the occupations found in the study were non-professional and some require on-the-job training, it appears that emphasis should be placed on the occupational competencies need for entry level employment.

2. A rural background is preferred but not a requirement for job entry. Emphasis was placed on education and occupational experience; therefore, students in urban and semi-rural areas interested in agriculturally related careers can benefit from instruction in vocational agriculture.
3. Personality is also considered an important factor in job success by employers in firms of an agricultural nature. The ability to get along with people and to communicate ideas are considered vital to a success in non-professional agriculturally related careers. Employers in agricultural businesses also want well educated people; therefore, high school drop-outs will receive little consideration when applying for a job in an agricultural type business if a high school graduate is available with the same level of competency and degree of experience.
4. Knowledge and skills in agriculture, business, and mechanics are needed by workers employed in businesses, industries and agencies of an off-farm agricultural nature. Many of the occupations require skills and knowledge usually taught beyond the secondary school level but less than baccalaureate level.
5. Secondary school students preparing for distributive occupations in agricultural firms should be placed in businesses to gain the needed occupational experiences for entry level employment.
6. Although employers in businesses, industries, and agencies of an agricultural nature anticipate problems, they are willing to assist schools in providing vocational education programs for secondary level students.

7. Instructional programs for occupations in agricultural businesses should include competency areas needed by a majority of the workers in the occupational clusters in which employment opportunities exist. Results of this study indicate that instructional (common elements) programs should include crop production, sales, and services; agricultural machinery sales and services; livestock and poultry sales, services and products processing; agricultural supply sales and services; and horticultural production sales, and services.
8. A core (common elements) instructional program for all agricultural occupations should be offered in schools where employment opportunities are limited or equally distributed among a number of the economic activities in the agri-business complex.



APPENDIX B

Number of Agricultural Businesses and Industries in Alabama by Economic Activities.

Counties	Number by main product or service categories (See footnote for activities)																Totals
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Autauga	0	3	5	1	0	2	4	0	2	1	0	2	1	3	2	0	26
Baldwin	0	1	0	7	0	22	30	4	12	7	7	40	5	15	8	4	165
Barbour	2	3	11	7	0	20	26	8	6	3	3	50	1	1	0	1	164
Bibb	0	3	2	2	0	1	8	1	4	0	0	10	1	1	1	0	35
Blount	2	3	13	4	0	10	23	3	3	0	5	1	2	3	0	7	81
Bullock	0	0	3	2	0	2	3	2	2	1	0	4	0	2	0	1	22
Butler	0	0	2	4	0	1	3	4	2	0	0	10	1	1	1	0	32
Calhoun	1	4	5	5	0	15	20	2	16	0	3	21	6	5	6	7	117
Chambers	3	1	2	2	0	2	2	1	2	1	0	3	1	1	1	1	23
Cherokee	1	1	11	5	0	6	12	3	3	0	3	2	1	0	1	3	53
Chilton	5	5	3	3	0	1	10	4	4	1	1	22	1	3	1	2	73
Choctaw	2	1	3	4	0	5	9	2	12	1	1	12	1	1	1	0	56
Clarke	1	0	1	5	0	1	4	4	1	0	1	10	0	2	1	2	32
Clay	0	0	1	2	0	4	6	4	5	0	0	6	1	1	1	1	34
Cleburne	0	0	1	0	0	1	5	2	3	1	1	3	0	0	1	1	21
Coffee	0	0	0	0	0	7	15	0	3	2	3	14	2	5	1	2	66
Colbert	1	4	5	3	0	6	5	2	4	2	6	4	1	3	4	0	55
Conecuh	1	4	6	3	0	17	6	2	8	5	2	3	1	0	0	5	61

1. Agri. chemical manuf. and wholesales
2. Dairy product manuf. and district
3. Cotton processing sales and warehousing
4. Farm mach. and equip. retail sales and service
5. Farm mach. and equip. manuf. and wholesales
6. Farm service
7. Farm supply retail stores
8. Feed manuf. and wholesales
9. Flower production and sales

10. Food processing and distribution
11. Livestock sales and service
12. Lumber and wood products
13. Meat processing and wholesales
14. Nursery production sales and landscaping services
15. Ornamental plant service and turf care
16. Pest control service
17. Poultry and poultry processing and sales

Appendix B (continued)

Counties	Number by main product or service categories (See footnote for activities)																Totals
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Coosa	0	0	0	2	5	3	1	0	2	1	4	5	13	0	0	1	21
Covington	0	4	0	5	0	1	19	3	1	4	2	13	0	5	1	1	75
Crenshaw	0	0	3	5	0	1	10	1	1	2	5	5	6	0	1	2	32
Cullman	3	5	19	3	0	40	7	19	8	4	3	8	3	3	0	10	153
Dale	5	0	4	11	0	4	12	6	5	7	2	9	3	4	2	2	60
Dallas	3	4	12	10	1	32	38	16	5	12	8	8	3	8	3	2	199
DeKalb	1	0	32	10	0	20	15	4	7	1	2	20	4	2	5	10	191
Elmore	0	2	4	7	0	9	8	5	7	1	4	15	2	2	3	0	62
Escambia	2	1	2	3	0	1	6	1	7	1	12	2	1	4	2	1	54
Etowah	1	0	4	4	1	12	11	2	5	3	3	17	12	2	3	3	71
Fayette	0	1	6	7	1	10	14	8	4	1	5	8	1	2	1	2	73
Franklin	1	1	5	4	0	12	18	9	7	9	3	5	3	2	0	10	87
Geneva	4	0	6	7	0	10	14	8	1	0	5	5	3	2	4	0	74
Greene	2	1	5	2	0	1	4	1	0	1	8	5	0	0	0	0	18
Hale	1	6	2	6	0	1	7	3	2	1	0	3	1	0	1	1	45
Henry	6	8	7	5	0	9	6	4	4	2	5	9	2	2	3	3	81
Houston	8	0	4	10	1	8	15	8	18	10	6	7	2	9	2	5	126
Jackson	0	2	8	4	0	3	10	6	6	6	1	10	0	2	3	2	62
Jefferson	18	32	5	6	0	5	21	3	106	11	35	24	26	39	13	26	401
Lamar	0	0	10	1	0	4	15	5	3	1	0	25	1	1	0	0	66
Lauderdale	2	8	7	5	0	4	8	8	10	7	6	11	2	4	0	2	91
Lawrence	1	0	7	1	0	3	7	2	2	0	4	1	0	1	1	3	40
Lee	1	1	1	6	0	3	3	0	2	1	4	4	1	4	4	2	32
Limestone	18	0	30	1	3	20	61	3	4	1	4	14	7	5	9	1	198
Louises	0	0	2	1	0	1	3	0	1	0	4	3	0	0	0	1	13
Macon	4	0	4	3	0	4	8	0	3	0	0	3	0	1	1	1	34
Madison	6	0	26	11	1	7	10	8	9	0	1	21	3	30	40	1	195
Marengo	2	0	4	3	0	8	6	3	2	0	2	16	3	1	4	0	58
Marion	0	3	3	3	0	3	4	2	2	1	5	4	1	0	0	2	32

Appendix B (continued)

Counties	Number by main product or service categories (See footnote for activities)																Totals
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Marshall	7	1	4	9	0	15	15	16	4	0	11	20	4	8	1	6	8
Mobile	11	19	0	5	0	8	11	5	27	23	30	32	9	34	11	22	11
Monroe	0	0	6	4	0	2	6	5	1	0	2	30	1	1	0	1	0
Montgomery	13	11	8	10	0	45	20	9	21	9	33	6	9	24	8	11	9
Morgan	3	7	17	2	0	4	5	1	12	5	8	20	7	11	7	3	3
Perry	1	0	4	2	0	4	5	6	1	3	3	2	0	0	1	2	1
Pickens	2	0	4	4	0	5	10	6	5	2	5	4	1	1	4	1	2
Pike	3	4	4	5	1	7	14	6	9	2	2	19	4	2	4	3	3
Randolph	0	1	3	4	1	3	14	6	6	5	1	6	1	0	4	1	2
Russell	2	0	0	1	0	2	14	0	8	1	3	15	0	3	0	0	0
Shelby	4	4	2	3	0	2	3	3	3	0	4	17	3	3	1	1	3
St. Clair	0	0	0	2	0	1	4	2	0	0	1	12	0	1	0	0	1
Sumter	0	0	3	1	0	3	3	1	2	0	1	3	0	3	1	0	2
Talladega	1	2	6	7	0	2	4	0	2	5	3	5	2	5	1	2	2
Tallapoosa	3	3	5	2	0	5	13	3	9	1	1	15	1	6	1	6	2
Tuscaloosa	11	12	3	6	3	16	8	18	21	3	5	14	5	16	9	2	2
Walker	3	3	4	3	0	8	3	10	0	2	1	14	1	5	2	2	2
Washington	1	0	0	1	0	3	6	0	1	3	1	11	0	0	0	0	1
Wilcox	0	0	6	1	0	2	6	1	2	2	3	11	0	0	0	0	0
Winston	0	0	0	0	0	2	17	4	2	0	0	7	1	0	0	0	0
Totals	175	189	385	277	12	473	746	288	467	197	282	884	165	310	190	208	195

APPENDIX C

PRE-EMPLOYMENT EDUCATIONAL NEEDS FOR WORKERS ENGAGED IN OFF-FARM
AGRICULTURAL OCCUPATIONS

(Interview Schedule)

County Number

I. Occupation

Job title _____

Level of employment code:

- | | | |
|--|--|--|
| 1. ☐ Semi-skilled | 4. ☐ Sales | 7. ☐ Service |
| 2. ☐ Skilled | 5. ☐ Supervisor | 8. ☐ Technical |
| 3. ☐ Clerical | 6. ☐ Manager | 9. ☐ Professional |

Position of person interviewed:

- | | |
|--|--|
| 1. ☐ Owner | 5. ☐ Sales Manager |
| 2. ☐ Owner-Manager | 6. ☐ Office Manager |
| 3. ☐ Manager (hired) | 7. ☐ Others (specify) |
| 4. ☐ Personnel Director | _____ |

Difficulty in filling vacancies with qualified persons

- | | |
|---|---|
| 1. ☐ No difficulty | 3. ☐ Great difficulty |
| 2. ☐ Some, but not much difficulty | 4. ☐ Extremely difficult |

II. Checked below are the ten most valued personal characteristics of an employee
(Check only ten)

- | | |
|--|---|
| ☐ Orderly in his work | ☐ Places group above himself |
| ☐ Works regularly and on time | ☐ Arouses enthusiasm in his fellow workers |
| ☐ Completes his work | ☐ Exhibits endurance in continued effort |
| ☐ Makes wise use of time | ☐ Gets along with his fellow workers |
| ☐ Shows intellectual curiosity | ☐ Exhibits personal cleanliness and neatness |
| ☐ Initiates undertakings | ☐ Possesses forceful personality |
| ☐ Fulfills promises and obligations | ☐ Can express his ideas well |
| ☐ Admits error when shown wrong | ☐ Speaks clearly and correctly |
| ☐ Is honest in word and deed | ☐ Uses good English in written form |
| ☐ Seems happy in his work | |
| ☐ Participates in civic activities | |

Educational grade level for entry (check one)

- | | |
|--|---|
| 1. ☐ Will hire with less than high school | 4. ☐ B. S. degree minimum |
| 2. ☐ High school minimum | 5. ☐ M. S. degree minimum |
| 3. ☐ Post high school technical education | 6. ☐ Doctor's degree minimum |
| | 7. ☐ Doesn't matter |

Technical short courses required for entry

1. ☐ None required
2. ☐ Provided by firm being interviewed
3. ☐ Provided by commercial concern
4. ☐ Provided by public schools less than college grade
5. ☐ Provided by college (agricultural or others)

Residential background preference (check one)

- | | |
|--|--|
| 1. ☐ (F) Farm background | 3. ☐ Urban background |
| 2. ☐ Rural, non-farm background | 4. ☐ No preference |

III. Pre-employment educational programs

To what degree of significance do you feel that the present instructional program of vocational agriculture trains a proficient worker in this occupation?

1. ☐ Very significant
2. ☐ Significant
3. ☐ Of some significance
4. ☐ Of little significance

Remarks _____

To what extent of proficiency do you feel that a high school instructional program in vocational agriculture could train a worker for this occupation?

1. ☐ Very proficient
2. ☐ Proficient
3. ☐ Somewhat proficient
4. ☐ Very small degree of proficiency

Remarks _____

Pre-employment Educational Program

To what extent are you familiar with the present Vocational Agriculture program?

- | | |
|---|---|
| 1. ☐ Very familiar | 3. ☐ Somewhat familiar |
| 2. ☐ Familiar | 4. ☐ Not familiar |

Ranked in order are the ways in which the person interviewed felt would be most feasible in providing at the high school level the pre-employment educational needs for off-farm agricultural occupations.

- A. ☐ Instruction in production agriculture, leadership and farm mechanics supplemented by on-farm production project program experiences.
- B. ☐ Instructional program consisting of skills and abilities common to both on-farm and off-farm agricultural occupations supplemented by on-farm projects and/or work experience in businesses under the supervision of the business and teacher.

- C. () Instruction consisting of skills and abilities common to both on-farm and off-farm agricultural occupations the first part of the total instructional program followed by training in clusters of agricultural occupations supplemented by on-farm production project and/or work experience in businesses under the supervision of the business and teacher.
- D. () Instructional program consisting of skills and abilities common to both on-farm and off-farm agricultural occupation supplemented by on-farm projects and/or short exploratory work experience under the supervision of the business and teacher.

Company willingness to participate in a coordinated school-employer educational program for high school students: (Check all that apply.)

- () Not willing
- () Permit students to visit and observe operations
- () Employ interested students during vacation periods
- () Employ interested students on a part-time basis during the school year
- () Employ interested students on a seasonal basis
- () Participate in a student work experience program a few hours during the school day on a non-pay basis.
- () Participate in a student work experience program a few hours during the school day on a non-pay basis and a pay basis on weekends.
- () Work with school personnel in outlining an educational program which would help prepare persons for work in off-farm agricultural occupations.
- () Release key employees to assist teachers in providing instruction for high school students.
- () Others (specify) _____

Remarks: _____

Problems that might be encountered by the company in the employing (or participating in work experience educational programs) of high school students:

- () Liability insurance
- () Labor union regulations
- () Time involved in training employees or time element involved in work experience programs
- () Minimum wage laws
- () Others (specify) _____

Remarks: _____

VI. Pre-employment educational needs

Importance of selected basic and enterprise units in vocational agriculture in the pre-employment educational program for those entering this occupation

	4	3	2	1
	Essential	Important	Of some importance	Of little importance
73. Characteristics and properties of soils				
74. Soil and plant relationships				
75. Crop improvement through breeding				
76. Land class capabilities				
77. Fertilizers and plant nutrients				
78. Science and practice of soil preparation				
79. Science and practice of cultivation				
80. Principles of irrigation				
81. Animal selection and breeding				
82. Animal growth and development				
83. Fundamentals of animal nutrition				
84. Feeds and feed values				
85. Balancing livestock rations				
86. Maintaining animal health				
87. Selecting crop varieties				
88. Chemical weed control				
89. Drying and storing crops				
90. Farm records and accounts				
91. Economic principles and managerial functions in the farm business				
92. Agricultural capital and finance				
93. Farm law				

	4	3	2	1
	Essential	Important	Of some importance	Of little importance
94. Marketing farm products				
95. Agricultural policy				
96. Understanding and controlling plant diseases				
97. Understanding and controlling common insects				
98. Controlling rodents				
99. Using insecticides and pesticides				
100. Conservation of wildlife and other natural resources				
101. Opportunities in off-farm agricultural occupations				
102. FFA and 4-H leadership activities				
103. Livestock production				
104. Dairying				
105. Poultry meat production				
106. Egg production				
107. Grain production				
108. Cotton production				
109. Fruit and nut production				
110. Vegetable production				
111. Peanut production				
112. Forest and forest products				
113. Forage production				
114. Planning an attractive home surrounding				

	4	3	2	1
	Essential	Important	Of some importance	Of little importance
115. Est. and maint. ornamental plant materials				
116. Farm power and machinery				
117. Farm building and conveniences				
118. Farm electrification				
119. Soil and water management				

Importance of selected instructional areas in general and business education in the pre-employment educational program for those entering this occupation.

120. Salesmanship				
121. Customer relations				
122. Bookkeeping				
123. Retail store management				
124. Business communications				
125. Office practice				
126. Business math				
127. Management principles				
128. Marketing				
129. Business law				
130. Principles of economics				
131. Personnel management				
132. Public speaking				
133. Government regulations				

	4 Essential	3 Important	2 Of some importance	1 Of little importance
134. Transportation				
135. Financing (insurance, credit)				
136. Credit and collection				
137. Advertising				
138. Shop Accounting				

Importance of selected instructional areas in mechanics in the pre-employment educational program for those entering this occupation.

139. Freehand sketching and drawing				
140. Mechanical drawing				
141. Planning general or farm shop projects				
142. Calculating pre-construction cost				
143. Woodworking and carpentry				
144. Knowledge of industrial processing				
145. Using power woodworking tools				
146. Using power metalworking tools				
147. Fuels and lubricants				
148. Tool fitting				
149. Painting and finishing				
150. Developing cold metalworking skills				
151. Developing hot metalworking skills				
152. Using an arc and oxyacetylene welder				
153. Power mechanics				
154. Metallurgy				
155. Hydraulics				